

1/15/14.
Please cancel claim 13 and amend the claims as follows:

13. (Cancelled)

14. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:
an oscillatory air flow generator comprising:
an air chamber;
a reciprocating diaphragm operably connected with the air chamber;
a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;
a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and
a first motor operably connected with the crankshaft;
a continuous air flow generator operably connected with the oscillatory air flow generator;
a first feedback and control means operably connected with the oscillatory air flow generator for maintaining a frequency of the oscillatory air flow generator at a predetermined value; and
a second feedback and control means operably connected with the continuous air flow generator for ^{continuously varying the} dynamically adjusting ^{the peak} an output pressure of the continuous air flow generator in order to maintain a positive pressure generated by the continuous air flow generator at a predetermined value.

17. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and

extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a continuous air flow generator operably connected with the oscillatory air flow generator;

a first feedback and control means operably connected with the oscillatory air flow generator for maintaining a frequency of the oscillatory air flow generator at a predetermined value; and

a second feedback and control means operably connected with the continuous air flow generator for maintaining a positive pressure at a predetermined value.

20. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a continuous air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the oscillatory air flow generator, wherein the frequency-compensation feedback system maintains a frequency of the oscillatory air flow generator at a predetermined value; and

a pressure-compensation feedback system operably connected with the continuous air flow generator, wherein the pressure-compensation feedback system maintains a positive pressure at a predetermined value.

B4 23. (Amended) The apparatus of claim 20 wherein the pressure-compensation feedback system dynamically adjusts an output pressure of the continuous air flow generator to maintain the positive pressure at the predetermined value.

26. (Amended) The apparatus of claim 20 wherein the pressure-compensation feedback system dynamically adjusts the continuous air flow generator to maintain the positive pressure at the predetermined value.

27. (Amended) The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts a speed of the continuous air flow generator.

28. (Amended) The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts an output pressure of the continuous airflow generator.

29. (Amended) The apparatus of claim 26 wherein the pressure-compensation dynamically adjusts an output flow of the continuous air flow generator.

30. (Amended) The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts the continuous air flow generator by flowing air from the apparatus.

B3 31. (Amended) The apparatus of claim 20 wherein the pressure-compensation feedback system continuously varies an output pressure of the continuous air flow generator in order to maintain a peak pressure generated by the continuous air flow generator at a predetermined value.

32. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

17 a continuous air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the oscillatory air flow generator, wherein the frequency-compensation feedback system maintains a frequency of the oscillatory air flow at a predetermined value; and

a pressure-compensation feedback system operably connected with the continuous air flow generator, wherein the pressure-compensation feedback system maintains a positive pressure at a predetermined value.

33. (Amended) The apparatus of claim 32 wherein the pressure-compensation feedback system dynamically adjusts the continuous air flow generator to maintain a positive pressure generated by the positive air flow generator at a predetermined value.

44. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:
a generator comprising:
an air chamber;
a reciprocating diaphragm operably connected with the air chamber;
a first motor operably connected with the reciprocating diaphragm; and
wherein the generator provides a positive pressure and an oscillatory pressure;
a frequency-compensation feedback system operably connected with the generator,
wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value; and
a pressure-compensation feedback system operably connected with the generator,
wherein the pressure-compensation feedback system continuously maintains the positive pressure at a predetermined value.

45. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:
a generator comprising an oscillatory air flow generator and a continuous air flow generator, the generator providing a positive pressure and an oscillatory pressure;
the oscillatory air flow generator comprising:
an air chamber;
a reciprocating diaphragm operably connected with the air chamber; and
a first motor operably connected with the reciprocating diaphragm;
the continuous air flow generator operably connected with the oscillatory air flow generator;
the frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value; and
a pressure-compensation feedback system operably with the generator, wherein the pressure-compensation feedback system maintains the positive pressure at a predetermined value.

78. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

U2 a generator comprising an oscillatory air flow generator and a continuous air flow generator, the generator providing a positive and an oscillatory pressure;

the oscillatory air flow generator comprising:

B9 an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

the continuous air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value; and

wherein the generator maintains the positive pressure at a predetermined value irrespective of the repeated inhalation and expiration of the person.

90. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

a generator comprising a control panel, an oscillatory air flow generator and a continuous air flow generator;

the control panel for user-selection of operating parameters;

the generator providing a positive pressure and an oscillatory pressure, the positive pressure about ambient pressure;

the oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber, the reciprocating diaphragm comprising a seal extending from the outer periphery of the reciprocating diaphragm to a wall of the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

wherein the first motor has a shaft mechanically connected to the reciprocating diaphragm;

wherein rotation of the shaft reciprocates the reciprocating diaphragm in a cycle;

wherein each cycle of the reciprocating diaphragm displaces a fixed volume of air;

wherein the reciprocating diaphragm causes pressure changes inside the air chamber in comparison to ambient pressure;

wherein a majority of the fixed volume of air is moved into and out of the bladder during each cycle;

the continuous air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value between about 5 Hz to about 25 Hz;

wherein the generator dynamically adjusts and controls the positive pressure to allow repeated inhalation and expiration of the person;

wherein the generator dynamically adjusts and controls the positive pressure to maintain the positive pressure at a predetermined value irrespective of the repeated inhalation and expiration of the person;

a vest comprising a bladder, the vest for placement around a torso of the person,
the bladder positioned such that expansions and contraction of the bladder occur generally
adjacent to torso of the person;

at least one tube operably connecting the bladder to the generator;

wherein the bladder causes oscillatory compression of the torso of the person;

wherein mucus from lungs of the person is loosened and expulsion of the mucus is
assisted; and

wherein treatment is initiated by placing the vest around the torso of the person and
selecting operating parameters on the control panel without further interaction required by the
person with the apparatus.

91. (Amended) An apparatus for generating oscillatory air pulses in a bladder
positioned about a person, comprising

a generator comprising an oscillatory air flow generator and a continuous air flow
generator, the generator providing a positive pressure and an oscillatory pressure;

the oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

the continuous air flow generator operably connected with the oscillatory air flow
generator;

wherein the oscillatory pressure has an oscillation frequency, wherein the
generator controls the oscillation frequency; and

wherein the generator maintains the positive pressure at a predetermined value
irrespective of the repeated inhalation and expiration of the person.

101. (Amended) A method for generating oscillatory air pulses in a bladder positioned about a person, comprising:

providing a generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

generating an oscillatory air pressure and a positive air pressure with the generator,

the oscillatory air pressure having an oscillation frequency;

maintaining the oscillation frequency with the generator to a first predetermined

value;

maintaining the positive air pressure with the generator to allow repeated

inhalation and expiration of the person; and

continuously maintaining the positive air pressure with the generator to a second predetermined value irrespective of the repeated inhalation and expiration of the person.
